

**CSC 458/858* Programming Language Processors
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Quiz #1

Time: 20 minutes

Instructions: Total 10 marks. Closed Book. Answer all questions in the space provided.
Use backs of pages for extra answer space if needed.

1. (6 Marks) Give a brief (one sentence) but precise definition of each of following terms as used in the course:

a. compiler

b. token

c. abstract machine

2. (4 marks) In the space provided on the next page, write an S/SL program for a scanner that scans a list of identifiers separated by blanks. It reads in blanks, letters, digits and special characters, and emits the tokens *pIdentifier* (a string of letters and digits beginning with a letter) and *pEof* (end of file). It should consider any other input character to be erroneous and emit the token *pIllegal* for it. Use the definitions provided, and in particular use the *Buffer* mechanism to save and emit the text of identifiers.

input:

% Input character classes
cLetter % a-z, A-Z
cDigit % 0-9
cSpecial % +, -, *, / ...
cBlank % white space
cEof % end of file
cIllegal; % anything else

output:

% Output tokens
pIdentifier % compound token - emitted with contents of text buffer automatically
pIllegal
pEof;

mechanism Buffer:

oBufferSave; % Save the last accepted input character in the text buffer;
 % Automatically emitted and cleared with pIdentifier.

rules

% Your answer goes here

end